material equivalent to the hull in strength and fatigue resistance.

(b) All valves used as shell fittings and all shell fittings on which such valves are mounted must be made of steel, or bronze or other ductile material approved by the Commandant.

§ 45.155 Inlets and discharge piping: Valves.

(a) Except as provided in paragraphs (d) and (e) of this section each pipe that discharges overboard through the hull of the ship must have—

(1) An automatic nonreturn valve with a positive means for closing; or

(2) Two automatic nonreturn valves with the inboard valve accessible for examination in service.

(b) The means for operating a valve described by paragraph (a)(1) of this section must be readily accessible and have indicators that show when the valve is not closed.

(c) If the pipe discharges from a space that is not manned or does not have continuous bilge water monitoring, a valve described in paragraph (a)(1) of this section must be operable above the freeboard deck.

(d) Each pipe that discharges from a space within an enclosed superstructure or deckhouse may have at least one accessible automatic nonreturn valve if the space is regularly visited by the crew.

(e) Through-hull piping systems in machinery spaces may have valves with positive means for closing at the shell if the controls are readily accessible and have indicators showing when the valves are not closed (nonreturn valves are not required).

§ 45.157 Scuppers and gravity drains.

Scuppers and gravity deck drains from spaces above the freeboard deck that penetrate the shell below a line 24″ or .05B above the summer loadline, whichever is greater, must have an automatic nonreturn valve. This valve may be omitted if the piping is of thickness not less than extra heavy pipe.

§ 45.159 Special conditions of assignment for type A vessels.

The lower freeboards allowed for type A vessels allow water on deck for greater percentages of time. Therefore the following additional requirements must be met to qualify for type A freeboards:

(a) Machinery casings must be protected by an enclosed superstructure or deckhouse unless intact bulkheads are used on all sides on the freeboard deck.

(b) Exposed machinery casings may be fitted with weathertight doors providing they lead to a space or passageway as strong as an enclosed superstructure from which a second interior weathertight door is provided for access to the engine room.

(c) Hatchways on the exposed freeboard or forecastle decks must be provided with watertight covers of steel.

(d) Unless a separate fore and aft access is provided below the freeboard deck, a permanent fore and aft gangway must be fitted at the superstructure deck level between poop and all other deckhouses used in the essential operation of the vessel.

(e) Type ''A'' vessels must be fitted with open rails for at least half the length of the exposed parts of the weather deck. Where superstructures are connected by trunks, open rails must be fitted for the whole length of the exposed parts of the freeboard deck.

Subpart E—Unmanned River Service Dry Cargo Barges

SOURCE: CGD 84–58, 50 FR 19533, May 9, 1985, unless otherwise noted.

§ 45.171 Purpose.

This subpart prescribes conditions under which certain unmanned river service dry cargo barges may be exempt from the load line and marking requirements. In lieu of these requirements, they are subject to special certification and operating requirements.

§ 45.173 Vessels subject to this subpart.

(a) This subpart applies to a vessel that is—

(1) An unmanned river service dry cargo barge with a length to depth ratio not to exceed 22 and built to at least the minimum scantlings of the American Bureau of Shipping River Rules;